

ABSTRACT

This invention is directed to the synthesis of double-stranded conducting polymers, formulation for surface treatment reagents, and the use of water-borne double-stranded
5 conducting polymers. The double-stranded conducting polymer provides a unique flexibility in designing molecules for surface treatment. The compositions can be used to treat metal surfaces to provide a stable interface for adhesive binding or the coating of paint or plastics on top of the chemically modified surface. The composition is useful as a replacement of chromate-based surface treatment process.